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UNITED STATES DEPARTMENT OF AGRICULTURE  
Rural Electrification Administration  
Washington, D. C.

January 11, 1943

WORK ORDERS FOR GENERATING PLANTS

GENERAL INSTRUCTIONS

In accordance with the requirements of the Federal Power Commission, changes in electric plant should be recorded by means of Work Orders. The following deals only with Work Orders for generating or production plant (Internal Combustion, Steam or Hydroelectric).

UNITS OF PROPERTY AND MINOR ITEMS OF PROPERTY:

In the handling of Work Orders the distinction between units of property and minor items of property is important.

Attached hereto is a list of the units of property applicable to your generating plant. Any equipment or material less than a unit of property is a minor item of property.

WORK ORDER REQUIRED:

The following are considered changes in electric plant and, therefore, require the submission of Work Orders:

1. Additions or retirements of units of property
2. Replacement of
  - (a) minor items of property resulting in increased efficiency, durability, capacity or usefulness of the plant as originally designed and constructed.
  - (b) minor items of property having a value of at least 75 per cent of the unit of property of which it is a part.
3. Additions of minor items of property involving no retirement of similar equipment if a substantial addition results.
4. Retirements of minor items of property involving no replacement of similar equipment.

NOTE 1: The determination of whether the addition of a minor item of property results in a "substantial" addition to the plant should be based upon its cost and usefulness. Each case should be dealt with on its own merits. Inquiries should be directed to the Design and Construction Division, attention: Generation and Transmission Section.

NOTE 2: In handling the replacement of a minor item of property having a value of at least 75 per cent of the unit of property of which it is a part, the Work Order should be prepared as though the entire unit of property were retired and the non-affected portion reinstalled together with the replacement.

WORK ORDER NOT REQUIRED:

1. Replacement of minor items of property except under conditions listed in (2) above. (Cost to be charged to appropriate operation or maintenance expense account) ~~DO NOT CHARGE CASH~~
2. Additions of minor items of property except under conditions listed in (3) above. (Cost to be charged to appropriate operation or maintenance expense account)

DETERMINATION OF ORIGINAL COSTS:

In determining the original cost of a unit of property, the figures of the original inventory or invoices of the production plant should be used. If these are not available it is permissible to estimate the original cost of the unit of property.

The original cost of minor items of property will not appear in the inventory. It will, therefore, be necessary to refer to the original invoices and if the necessary information is unavailable to estimate its cost.

WORK ORDER FORM:

A single form covering Construction and Retirement Work Orders and General Plant Orders - both Estimate and Final - for generating plants has been prepared. Power cooperatives are to use this form for changes in Accounts 310 through 336 and 370 through 379. Distribution cooperatives operating generating plants should use this form for changes in Accounts 310 through 336 only.

Since most Work Orders represent a request for funds it is essential that an Estimate Work Order be prepared and submitted to REA. Approval by REA of an Estimate Work Order constitutes assurance of the availability of the necessary funds and approval to use these funds as described in the Work Order. The need for a Final Work Order to supersede the Estimate Work Order is obvious.

CONTRACTS:

If the Work Order covers the purchase and installation of operating equipment such as evaporative coolers, water softeners, oil circuit breakers, etc., the purchase of the operating equipment should be by an approved form of contract subject to the approval of the Administrator.

DETAILED INSTRUCTIONS FOR WORK ORDER FORM ADM 38 ~~ADDITIONAL INFORMATION~~ ~~FOR GENERATING PLANTS~~

NUMBERING OF GENERATING PLANT WORK ORDERS:

All generating plant Work Orders will take a "G" designation before the number. This appears on the form. Estimate Work Orders will take in addition an "E" designation (e.g., Work Order No. G E-5). Final Work Orders will take an "F" designation (e.g., Work Order No. G F-2).

All Estimate Work Orders should be numbered consecutively irrespective of the type (Construction, Retirement or Construction-Retirement).

Final Work Orders should take the same number as the corresponding Estimate Work Order. If all orders require different numbers, and no estimate orders are used.

No Estimate General Plant Orders are necessary. These should be numbered as though they were Estimate Orders.

Since the same form is used for all Work Orders, please cross out that part of the title that does not apply:

1. Cross out "Final" or "Estimate".
2. For Construction Work Orders, strike out "Retirement" and "General Plant".
3. For Construction-Retirement Work Orders (i.e., where one Work Order covers both), strike out "General Plant".
4. For Retirement Work Orders, strike out "Construction" and "General Plant".
5. For General Plant Orders, strike out "Construction-Retirement".

NUMBER OF COPIES:

Two copies of each Work Order should be submitted to the Work Order Unit - Application and Loans Division.

DETAILED INSTRUCTIONS:

- A. COLUMN "ITEMS OR UNITS" - This column is for the purpose of describing in a general way the unit of property or the minor items of property covered. Each unit of property retired or added should be listed separately. Minor items of property retired or added may be grouped together under one listing if they are all part of the same unit of property.

For example, if an oil storage tank, foundations, supports, etc. are added, it may be listed under "ITEMS or UNITS" as "Storage Tank etc." The description of the work and the materials involved (listed on the back of the form) will indicate exactly what is to be done.

If one Work Order is to cover a number of structural changes such as the retirement of a portion of the heating, plumbing and ventilating system, this work may be described under "Items or Units" as "Heating, Plumbing, Ventilating etc." However, if at the same time a water supply tank is to be retired, this should be listed separately, since it is a part of a different unit of property.

- B. COLUMN "PLANT ACCT. NO." - This refers to the account number of the Uniform System of Accounts, of which the unit of property or the minor item of property is a part. (See attached list of Units of Property.)
- C. COLUMN "PLANT ADDITIONS" - This is broken down into "Material", "Labor and Miscellaneous" and "Total". Under "Material" the total cost of the material or equipment prior to installation or construction should be stated (i.e., delivered or stock record cost). The cost of labor, transportation, supervision and other miscellaneous expenses is inserted under "Labor and

"Miscellaneous". Usually these charges will be obtained by prorating the total of such costs for the entire job among the various items. The column "Total" is the sum of the other two.

- D. COLUMN "PLANT RETIREMENTS" - These are recorded in the same manner as "ADDITIONS" except that original installed costs of labor and materials should be used. If the equipment was installed under contract and the overhead expenses (engineering, supervision, etc.) were not subsequently spread into the plant accounts, an estimate of the overhead costs chargeable to the job should be added to the original labor and transportation cost.

Where the original cost is not broken down into Materials and Labor, it is not necessary to estimate this breakdown. The "Total Installed Cost" column should be used only.

If any of the material or equipment retired is retained to be used on the job again, to be returned to stock or to be junked, its value should be recorded in the lower right hand block under "Salvage"; and an itemized list should be prepared on the back of the Work Order under "Retirement".

- E. INVESTMENT - This space is to be used to summarize all of the expenses connected with the addition to the plant.

Under "Material" list the sum of the cost of all material and equipment to be used (Estimate Work Order) or actually used (Final Work Order) for the job as listed in the column under "PLANT ADDITIONS", and as shown on the reverse side of the Work Order form.

"Transportation" is the total cost of transporting the men and their working equipment to and from the job or in transporting material from the warehouse to the job, where the cost of materials includes transportation to the warehouse only. Most generating plant Work Orders will not have any "transportation" costs. A detail of these costs should be attached to the Work Order for all cases involving "transportation" costs.

"Overhead" includes such expenses as postage, meals and supervision chargeable to the particular job. This cost should be determined by the superintendent on the basis of the actual expenses chargeable to the Work Order as shown by daily cost records.

The prorata share of the superintendent's and bookkeeper's salary as determined by the labor distribution time sheets should be included in overhead. If these are not available an estimate may be made. The superintendent, bookkeeper, etc., should submit with the expenditure report individual receipts as follows:

"I hereby acknowledge receipt of \$ \_\_\_\_\_ in payment  
of salary or wages for the month of \_\_\_\_\_,  
which is chargeable to Work Orders Nos. \_\_\_\_\_."

Signed \_\_\_\_\_"

The amount obtained in line "Sub-Total" should check with the total of "Labor and Miscellaneous" under "PLANT ADDITIONS"; and the line "Total" should check with "Total Installed Cost" under "PLANT ADDITIONS". By subtracting the value of material or equipment which had previously been retired or drawn from stock and that purchased or to be purchased under REA approved contracts, the total cash required is obtained.

For Estimate Work Orders, it will usually be necessary to estimate the cost of materials or equipment to be purchased under approved contract. Please strike out either "Under" or "to be under" so that it will be clear whether the contract has been entered into or will come up in the future.

The box "FUNDS TO BE REQUESTED" has separate columns for Estimate Work Orders and Final Work Orders. In obtaining the figure for "Materials" here, it is necessary to subtract the value of materials and equipment from stock and under (or to be under) approved contract from the total cost of "Materials" under "PLANT ADDITIONS", obtaining thus the Net Material Cost. Materials from stock previously purchased with General Funds (not subsequently reimbursed) should be dealt with as though they were new materials and included in "Material" under "PLANT ADDITIONS", with an appropriate note.

- F. ESTIMATED RETIREMENT CHARGE - The item "Original Cost of Property Retired" includes all material and labor, transportation, etc., expended at the time the property was installed. This also includes the overhead costs which have been applied against the book account covering the unit being retired. For property originally installed by contract, the unit price as set up in the Construction Contract or the Final Inventory can generally be used as a basis for computing the original material, labor, and transportation cost. For the purpose of clearing from Plant the units which were installed under contract, the overhead originally charged shall be considered. To determine this amount it will be necessary to refer to the Journal Entry which cleared such overhead costs and compute the ratio or percentage on which such apportionment was made, if not shown by the Journal Entry. This ratio should then be applied to the original cost of installation of property being retired.

If neither the original contract, Final Inventory or invoices provide a basis for determining the original cost of the property retired or to be retired, it is necessary to estimate this value.

If the overhead chargeable to the property retired or to be retired is unobtainable, an estimated amount should be added to cover overhead costs.

The "Original Cost of Property Retired" should be identical to the total of the last column (Installed Cost) of "PLANT RETIREMENTS".

The "Cost of Removal" of the property retired is the estimated labor, transportation, etc., necessary to dismantle the property and place it in storage.

"Salvage to Stock" is the estimated value of usable material or equipment to be recovered. This value should be recorded on your stock records.

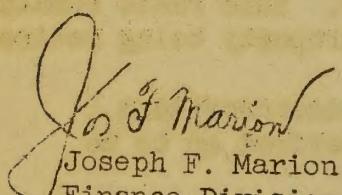
"Salvage-Junk" - This is the estimated sale value of any material or equipment which can be sold as junk.

"NET CHARGE TO RETIREMENT" is the total of "Original Cost" plus "Cost of Removal" less "Total Salvage".

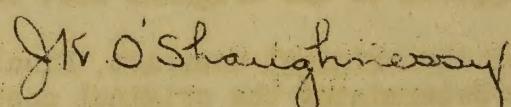
In completing the line "How Computed" one of the following statements should be inserted:

1. From contract (or inventory) and Journal Entry distributing construction overheads.
  2. From contract (or inventory) plus estimated overhead (show percentage used).
  3. From invoices and Journal Entry distributing construction overheads.
  4. From invoices plus estimated overhead (show percentage used).
  5. All figures estimated (show percentage overhead used).
- G. BIDS - This space is provided to list the bids on material and equipment 1 coming under General Plant Orders (procurement of capital asset addition to General Plant).
- H. REVERSE SIDE OF FORM - On the reverse side of the Work Order form is an "INVENTORY OF MATERIALS USED OR SALVAGED". This should be used for Estimate and Final Work Orders (but not for General Plant Orders). For Estimate Work Orders, it is not necessary to include manufacturers' names and catalog numbers; when these are not yet determined. Sizes and general description of the materials or equipment should be shown. A description of each item of material and its unit price should be shown in the proper columns. Under "AMOUNT" should be listed the total cost of the item. i.e., unit price multiplied by quantity.

At the bottom of this side is a schedule of labor charges (to be used for Final Work Orders only). This should show all the employees working on the job, the date, hours, rate and cost.



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